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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,029	07/11/2003	Kenichi Komiya	047373-0133	2710
22428	7590	02/02/2005	EXAMINER PHAM, HAI CHI	
FOLEY AND LARDNER SUITE 500 3000 K STREET NW WASHINGTON, DC 20007			ART UNIT 2861	PAPER NUMBER

DATE MAILED: 02/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/617,029	KOMIYA ET AL.	
	Examiner	Art Unit	
	Hai C Pham	2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 23 November 2004.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-26 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 5 and 20 is/are allowed.
- 6) Claim(s) 1-4, 6, 8-19, 21-24 and 26 is/are rejected.
- 7) Claim(s) 7 and 25 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_

## FINAL REJECTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4, 6, 8-19, 21-24 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamamoto et al. (U.S. 5,065,441).

Yamamoto et al. discloses:

(Referring to claims 1, 11-12, 23) a light beam scanning apparatus comprising an image processor (400, Fig. 9) configured to generate a plurality of control signals (pattern signals  $S_{Pa}$  and  $S_{Pb}$ ) from image data so as to form a series of pixels along a common scan line, a plurality of modulators configured to modulate said plurality of control signals for said series of pixels along said common scan line (modulation circuit 110 comprising two pulse width modulating devices that include comparators 7A and 7B for generating the modulated control signals  $S_{PWMa}$  and  $S_{PWMB}$  as depicted in Fig. 1), each of said plurality of modulators has the same pixel clock time (based on DCK) between successive pixels along said common scan line, at least one laser driver (laser driver circuit 932) configured to generate a laser driver signal from said plurality of the modulated control signals (the resulting combined pulse width modulation signal  $S_{PWM}$ ), and a light beam generating unit (semiconductor laser 931) configured to generate a light beam being driven by said at least one laser driver.

(Referring to claim 2) said plurality of modulators comprise pulse width modulators (PWMs) (Fig. 1).

(Referring to claim 3) said plurality of modulators comprising a first modulator configured to output a first modulated signal for odd successive pixel image data on said common scan line (comparator 7A generating the first pulse width modulated signal  $S_{PWM_a}$  of every other dot) (Fig. 2E) and a second modulator configured to output a second modulated signal for even successive pixel image data on said common scan line (comparator 7B generating the second pulse width modulated signal  $S_{PWM_b}$  of every other dot) (Fig. 2F) (col. 4, line 65 to col. 5, line 3).

(Referring to claim 4) a center of even and odd pixels is aligned by said light beam generating unit (the semiconductor laser 931 generating the laser beam based on the combined pulse width modulated signal  $S_{PWM}$  to form a common scan line formed by the odd and even dots) (Fig. 2G).

(Referring to claim 6) both the first and second modulators are synchronized with a reference clock (DCK).

(Referring to claims 8 and 24) a combiner (NAND circuit 10) coupled to said plurality of modulators so as to receive the modulated signals ( $S_{PWM_a}$  and  $S_{PWM_b}$ ) outputted by said plurality of modulators, said combiner outputting a combined modulated signal ( $S_{PWM}$ ), and a laser driver (932) coupled to said combiner so as to generate a laser driver signal (driving the semiconductor laser 931).

(Referring to claim 9) the combiner being a NAND gate circuit (10), but Yamamoto et al. also suggests the combiner can be an OR gate circuit as depicted in Fig. 1.

(Referring to claim 10) said light generating circuit comprising a single laser (931).

(Referring to claim 13) the common scan line is a series of pixels along the main scanning direction of an object to be scanned (each of the two modulators generates a pulse width modulated signal for every other dot or pixel of the same scan line for driving the single semiconductor 931 whose laser beam scans the surface of the photosensitive drum 130 in the main scanning direction as indicated by arrow a in Fig. 11).

The method claims 14-22 are deemed to be clearly anticipated by functions of the above structures.

#### ***Allowable Subject Matter***

3. Claims 5 and 20 are allowed.
4. Claims 7 and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
5. The following is a statement of reasons for the indication of allowable subject matter: the primary reason for the indication of the allowability of claims 7 and 25 is the inclusion therein, in combination as currently claimed, of the limitations that the light beam scanning apparatus includes "a plurality of laser drivers" and "wherein each of the plurality of laser drivers is coupled to a corresponding one of said plurality of modulators so as to generate a laser driver signal from a corresponding modulated signal" and "wherein said plurality of laser drivers are electrically coupled to said light beam

generating unit such that said light beam is driven by said laser driver signals”, which are not found taught by the prior art of record considered alone or in combination.

***Response to Arguments***

6. Applicant's arguments with respect to claims 1-4, 6, 8-19, 21-24 and 26 have been considered but are moot in view of the new grounds of rejection presented in this Office action.

***Conclusion***

7. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C Pham whose telephone number is (571) 272-2260. The examiner can normally be reached on M-F 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L Talbott can be reached on (571) 272-1934. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Hai C Pham*

HAI PHAM  
PRIMARY EXAMINER

January 28, 2005